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15 April 1998

Mr. Michael Barry
U.S. Environmental Protection Agency
Region 1
JFK Federal Building
90 Canal Street
Boston, Massachusetts 02214

Ms. Claudia Sait
Maine Department of Environmental Protection
State House, Station 17
Augusta, Maine 04333-0017

Dear Mr. Barry/Ms. Sait:

On behalf of the U.S. Navy, EA Engineering, Science, and Technology is enclosing a Response to Comments for U.S. Environmental Protection Agency (EPA) comments on the Final Monitoring Event 9 Report for Sites 1 and 3 and Eastern Plume (July 1997). These Response to Comments were planned to be sent with the recently submitted Final Monitoring Event 10 reports, and the associated Response to Comments from MEDEP, but the EPA comments were inadvertently left out of that delivery.

If additional information is required, please contact Peter Nimmer at (914) 565-8100, or Emil Klawitter at (610) 595-0567.

Sincerely,

Peter L. Nimmer, P.G.
Project Manager

PLN/caw
Enclosure

cc: Distribution List (RAB Members):

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RESPONSES TO U.S. ENVIRONMENTAL PROTECTION AGENCY COMMENTS ON FINAL REPORT MONITORING EVENT 9, SITES 1 AND 3 AND EASTERN PLUME NAVAL AIR STATION, BRUNSWICK

GENERAL COMMENTS

1. Including a table comparing previous monitoring events results to Monitoring Event 9 data would support the conclusion that this event is comparable to past sampling events. An example table is enclosed. Due to the long lag time until the detailed analysis in the Annual Reports is available, a data trend analysis such as this would be very useful in evaluating ground-water extraction and treatment system performance.

   Response—In order to limit the information included in each monitoring report, summary tables of previous data have not been included. The electronic database included with each report contains a complete record of sample results, and can be used to construct summary tables.

2. EA has undertaken significant effort to set up monitoring event data into dBASE files. However, I have so far been unable to access these files and plan to seek further guidance.

   Response—EA personnel who have developed the database would be available to assist with technical questions related to database use. Please call Pete Nimmer or Bruce Muchmore at 914-565-8100 to address any database questions.

3. Features noted in the text should be included in the accompanying figures on future reports. The nine background monitoring wells sampled in Monitoring Event 9 are an example. The majority of these wells have not been identified on the accompanying figures.

   Response—The Navy agrees that future monitoring event report figures will include all features noted in the text of the reports. Maps showing the locations of the background monitoring well locations will be distributed with these response to comments.

SPECIFIC COMMENTS

1. **Section 1.3, Ground-Water Monitoring, Sampling, and Analysis, Page 3, Paragraphs 1 and 2**—The EPA notes that most monitoring wells were sampled in this event, and that all wells in the Eastern Plume were sampled.

   Response—The Navy agrees with this comment.

2. **Section 1.3, Ground-Water Monitoring, Sampling, and Analysis, Page 3, Paragraph 3**—Ground-water samples were collected from nine background monitoring wells located throughout the base, yet a majority of these wells are not shown on the corresponding figures. The location of the following background monitoring wells should be shown on the corresponding figures: MW-320, MW-403, MW-703, MW-705, MW-801, and MW-NASB-020.

   Response—The Navy agrees that future monitoring event report figures will include all features noted in the text of the reports. Maps showing the locations of the background monitoring well locations will be distributed with these response to comments.

3. **Section 1.3.1, Water Quality Indicator Parameter Measurements, Page 4, Paragraph 2**—The text states that 13 of the 15 wells sampled at Sites 1 and 3 reached equilibrium. Section 1.3, however, states that ground-water samples were collected from 1 of the 20 well locations. Please clarify this inconsistency.

   Response— The text of Section 1.3.1 which noted 13 of 15 wells included only monitoring wells, and did not include the 5 extraction wells in the Eastern Plume. The text noting 17 of 20 wells included 15 monitoring wells and 5 extraction wells. These sections will be clarified to avoid this confusion in future monitoring event reports.

4. **Section 1.5, Landfill Gas Monitoring and Cap Inspection, Page 5, Paragraph 1**—Gas measurements were taken at 3 gas probes (GP-04, GP-05, and GP-06) located in the vicinity of the Weapons Compound, as well as the 14 gas vents (GV-01 to GV-14). The locations of the gas probes and vents, however, are not shown on the corresponding figures. These locations should either be added to the figures or develop a new enlarged figure of Sites 1 and 3 with these sites denoted in future reports.

   Response—The gas vents are located around the perimeter of the slurry wall, while the gas probes are located along the open portion of the landfill cap, in the vicinity of the weapons area. These locations will be included on future site maps.

5. **Section 1.5, Landfill Monitoring and Cap Inspection, Page 6, Paragraphs 2, 3, and 4**—The EPA notes erosion, and sedimentation of the cap and drainage system. Has the corrective measure noted regarding sedimentation been performed? The potential broaching of liner system integrity by an animal burrow is noted. What measures are in place to prevent this problem? Also, has any analysis of the location of the animal burrow to that of the one monitoring well in which rising water level was noted at the RAB on 14 January?

   Response—Landfill repairs have been scheduled to be conducted in Spring of 1998 to correct these problems with erosion, sedimentation, and animal burrows. The location of the observed burrow at GV-02 was more that 200 ft from the well which reported increasing water elevations (MW-217A), and is not likely to be related.

6. **Section 1.6, Quality Assurance/Quality Control, Page 6, Paragraph 1**—Several field record forms of well gauging, purging, and sampling from Sites 1 and 3 and the Eastern Plume are missing from Appendix A.2, including forms from monitoring wells, MW-201R, MW-210A, MW-211A, MW-316A, MW-316B, MW-3I7A and MW-317B. These forms should be added to the document.

   Response—The wells listed in the comment are not sampled and are gauged only, therefore, the sampling forms were not included. Note that MW-210A has been replaced with MW-210R, although MW-210A will continue to be gauged during future monitoring events. The monitoring points which are gauged and sampled are summarized in Tables 1 and 2 in the monitoring event reports.

7. **Section 2.2.3, Ground-Water Extraction and Treatment System, Paragraph 2**—The EPA notes that higher pH and conductivity values, and nominally lower turbidity and redox potential values for extracted ground water were indicated on Monitoring Event 9 as compared to Monitoring Event 8.

   Response—The Navy agrees with this comment.

8. **Section 2.3.1, Sites 1 and 3, Page 11, Paragraphs 2, 3, and 4**—VOC levels at a maximum of 1-2 orders of magnitude above the MCLs/MEGs in 3 monitoring wells, with the majority of wells either non-detect or less than 5 μg/L are noted.

   Response—The Navy agrees with this comment.

9. **Section 2.3.1, Sites 1 and 3, Page 11, Paragraph 4**—Arsenic at 99.6 μg/L parts per billion (ppb), roughly twice the MCL of 50 ppb in MW-218 is noted.

   Response—The Navy agrees with this comment.

10. **Section 2.3.1, Sites 1 and 3, Page 11, Paragraph 4**—The list of target analytes reported above MCLs/MEGs should be expanded to include chromium. Table 12 indicates chromium at 112 (ppb) from monitoring well MW-217B, which exceeds the MCL/MEG of 100 ppb. Also, manganese was detected in monitoring well MW-218 at 99.6 ppb according to the text, but listed as 633 ppb on Table 12. Please clarify this inconsistency.

    Response—The Navy agrees that chromium was reported above MEG/MCL, and this should have been noted in the text of the report. Manganese was incorrectly reported in the text at 99.6 μg/L, and the correct analytical results of 633 μg/L was reported on Table 12.

11. **Section 2.3.2, Eastern Plume, Page 12, Paragraph 2**—VOCs detected of up to 2-4 orders of magnitude above the MCL/MEGs in numerous monitoring wells, with highest levels observed in MW-311, are noted.

    Response—The Navy agrees with this comment.

12. **Section 2.3.2, Eastern Plume, Page 12, Paragraph 2, First Bullet**—This list of wells in which 1,1,1-trichloroethane was detected above the MCL/MEG of 200 ppb should be expanded to include piezometer P-105 because Table 13 indicates that 1,1,1-trichloroethane was detected at 1,700 ppb.

    Response—The Navy agrees that the text of the report should have noted 1,1,1-trichloroethane as being reported above MEG/MCL. The reported concentration of this compound was correctly noted on Table 13.

13. **Section 2.3.2, MW-31 1 Ground-Water Extraction, Page 13, Paragraph 2**—Generally, decreasing concentrations of VOCs in MW-311 during extraction in July are noted.

    Response—The Navy agrees with this comment.

14. **Section 2.3.2, Eastern Plume: Total Volatile Organic Compound Isoconcentration Maps, Page 14, Paragraph 1**—Detections of VOCs above MCLs/MEGs in MW-229B for this event when past event results have been a non-detect for VOCs are noted.

    Response— The Navy agrees with this comment. TCE and PCE were reported at concentrations above State MEG during Monitoring Event 9, although Monitoring Event 10 sample collected at this well reported non-detection for VOC.

15. **Section 2.3.2, Eastern Plume: Total Volatile Organic Compound Isoconcentration Maps, Page 14, Paragraph 2, Last Sentence**—Results consistent with past sampling rounds are noted. "Consistent" could be implied to be either remaining the same or proceeding in a general trend. Such an analysis is beyond the current scope of the monitoring reports. Per the general comment, this statement should be caveated in future reports.

    Response—In this case, use of the term "consistent" indicated concentrations of VOC were reported at similar constant between Monitoring Event 9 compared to previous sample results. The use of this term will be avoided in the future, unless additional description is used for clarity.

16. **Section 2.3.3, Background Monitoring Wells, Page 15, Paragraph 1**—Detection of target analytes in all background monitoring wells is noted. Specifically, concentrations of aluminum and manganese ranging from slightly above to one order of magnitude above the State MEG were observed in a minority of background wells.

    Response—The Navy agrees with this comment.

17. **Section 2.3.4, Ground-Water Extraction and Treatment System, Page 15**—Extraction of VOCs of concern at a concentration of 1-2 orders of magnitude is noted and zero exceedances of the system treatment plant discharge permit is acknowledged.

    Response—The Navy agrees with this comment.

18. **Sections 2.4, Surface Water and 2.5, Sediment, Pages 15-16**—The absence of VOCs of concern in surface water and sediment samples at Sites 1 and 3 is noted as are elevated levels of inorganics in the vicinity of the landfill "toe."

    Response—The Navy agrees with this comment.

19. **Section 2.6.2, Leachate Station Sediment Samples**—Detection of mercury at concentrations greater than 1.0 ppm, the risk-based cleanup level specified in the ROD, in 2 of 5 samples is noted.

    Response— The Navy agrees with this comment.

20. **Figure 3**—A symbol for the gas probes should be given in the legend. Also, the number of the gas probe samples located in the vicinity of monitoring wells MW-309B and MW-309A is not shown on the figure. This should be added to the figure, or a new figure for gas probe sample locations should be developed.

    Response—The Navy believes the commentor may be referring to stream gauging points which are located in the vicinity of MW-309A/MW-309B, rather than gas probes which are located inside the Sites 1 and 3 landfill. The symbol for gauging points was not defined on Figure 3, although this symbol will be added to figures in future monitoring event reports.

21. **Figure 6**—The contour for the 24-ft elevation should be moved slightly to the south to encompass monitoring well MW-225B (24.34 ft) between the 24-ft and 27-ft contours.

    Response—The Navy agrees with this comment. Future monitoring event contour maps will be adjusted accordingly.

22. **Figure 8**—The contour for the 24-ft elevation should be moved slightly to the south to encompass EP-8 (26.80 ft) between the 24-ft and 27-ft contours.

    Response—The Navy agrees with this comment. Future monitoring event contour maps will be adjusted accordingly.